

AMENDMENTS TO THE CLAIMS:

1 - 7 (Canceled)

8. (Previously Presented) A thimble-type steam injection humidifier in a high response humidification system, the steam injection humidifier comprising:

a number of humidifying tubes structured of multi-passage modules, wherein flexibility of application can be enhanced according to humidifying capacity required for the high response humidification system;

headers arranged upstream and downstream of the humidifying tubes;

detachable fastening means for fastening the humidifying tubes with the upstream and downstream headers, wherein the passages can be opened/shut according to humidifying capacity;

humidifying nozzles uniformly arranged in an air flowing duct, wherein the humidifying tubes are formed to have a geometric sectional shape selected from a group including flat tube, ellipse and diamond to reduce resistance against an air flow;

wherein each of the humidifying tubes comprises a pneumatic resistance adjustment tube projected to the upstream and downstream headers to allow adjustment of steam capacity introduced to the each humidifying tube, and wherein the each humidifying tube is rotatable to adjust the direction of injecting steam and the number of humidifying holes of the humidifying nozzles; and

wherein the humidifying nozzles in the each humidifying tube can be detached and replaced with sealing bodies to allow adjustment of the number of the humidifying holes.

9. (Previously Presented) A thimble-type steam injection humidifier in a high response humidification system, the steam injection humidifier comprising:

a number of humidifying tubes structured of multi-passage modules, wherein flexibility of application can be enhanced according to humidifying capacity required for the high response humidification system;

headers arranged upstream and downstream of the humidifying tubes;

detachable fastening means for fastening the humidifying tubes with the upstream and downstream headers, wherein the passages can be opened/shut according to humidifying capacity;

humidifying nozzles uniformly arranged in an air flowing duct, wherein the humidifying tubes are formed to have a geometric sectional shape selected from a group including flat tube, ellipse and diamond to reduce resistance against an air flow;

wherein each of the humidifying tubes comprises a pneumatic resistance adjustment tube projected to the upstream and downstream headers to allow adjustment of steam capacity introduced to the each humidifying tube, and wherein the each humidifying tube is rotatable to adjust the direction of injecting steam and the number of humidifying holes of the humidifying nozzles; and

wherein one of the pneumatic resistance adjustment tubes of the each humidifying tube projected to the upstream header has variable penetrating depth into the upstream header to adjust pneumatic resistance to the each humidifying tube from the upstream header to the each humidifying tube for the uniform distribution of flow rate, and tapered in the upper part, wherein flowing rate of steam into the each humidifying tube at the inlet side can be adjusted by the rotation of the tapered surface.

10. (Currently Amended) The steam injection humidifier according to claim 9, wherein the tapered upper surface of the one pneumatic resistance adjustment tube has an ~~angle γ~~ angle β of -60° to $+60^\circ$.

11 – 13 (Canceled)

14. (Previously Presented) A thimble-type steam injection humidifier, in a high response humidification system, the steam injection humidifier comprising:

a number of humidifying tubes structured of multi-passage modules, wherein flexibility of application can be enhanced according to humidifying capacity required for the high response humidification system;

headers arranged upstream and downstream of the humidifying tubes; and

detachable fastening means for fastening the humidifying tubes with the upstream and downstream headers, wherein the passages can be opened/shut according to humidifying capacity,

wherein each of the fastening means of each of humidifying tubes and the upstream header includes:

internal threads provided in the upstream header;

a first nut for surrounding and fixedly supporting a pneumatic resistance adjustment tube, the first nut having external threads at the upper end, a fixing threshold in the periphery under the threads, a hole with threads for receiving a headless bolt for one-point support, and a radially tapered lower end;

a ferrule for being coupled with the tapered lower end of the first nut;

a second nut for fixing the each humidifying tube; and

a connector tube having an outer diameter the same as the each humidifying tube and the pneumatic resistance adjustment tube,

wherein the first nut is inserted into the internal threads of the upstream header, the connector tube is coupled with the lower part of the first nut to connect the each humidifying tube and the pneumatic resistance adjustment tube, and the connector tube is coupled with the second nut to fasten the each humidifying tube into the upstream header.

15 – 22 (Canceled)